



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,632	11/27/2001	Kwok Wai Cheung	007198-438	8229
<div>7590 02/20/2008</div> <div>James A. LaBarre BURNS, DOANE, SWECKER & MATHIS, L.L.P. P.O. Box 1404 Alexandria, VA 22313-1404</div>				
<div>EXAMINER</div> <div>FORD, GRANT M</div>				
<div>ART UNIT PAPER NUMBER</div> <div>2141</div>				
<div>MAIL DATE DELIVERY MODE</div> <div>02/20/2008 PAPER</div>				

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/993,632	Applicant(s) CHEUNG ET AL.	
	Examiner GRANT FORD	Art Unit 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 11/29/2007, with respect to the rejection(s) of
5 claim(s) 1 and 10 under SAM have been fully considered and are persuasive.
Therefore, the rejection has been withdrawn. However, upon further consideration, a
new ground(s) of rejection is made in view of Almeroth et al. as outlined below.

Double Patenting

10 The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees. A nonstatutory
15 obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
20 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
25 double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
30 37 CFR 3.73(b).

Claims 1,9-11,and 18 are provisionally rejected on the ground of nonstatutory
double patenting over claims 1 and 13 of copending Application No. 09/993,629.

Art Unit: 2141

Although the conflicting claims are not identical, they are not patentably distinct from each other because Claims 1,9-11,and 18 function to claim a subset of subject matter explicitly found in claims 1 and 13 of co-pending application 09/993,629.

This is a provisional obviousness-type double patenting rejection because the
5 conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
10 obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
15

Claims 1,5-10,and 14-18 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Liao et al. (The Split and Merge (SAM) Protocol for Interactive Video-on-Demand Systems), hereinafter referred to as SAM, in view of Almeroth et al. (On the
20 Use of Multicast Delivery to Provide a Scalable and Interactive Video-on-Demand Service), hereinafter referred to as Almeroth.

a. As per claim 1, SAM discloses a method for delivering media to a plurality
of media client having a buffer for caching media of a selected media stream within one
stream interval and processing capability for playing the media in a multicast media
25 stream through a network, including the steps of:

joining the media client to a selected multicast media stream in response to a selection request from the media client (Page 1349, Section 1);

caching the buffer of the media client continuously with unplayed media in the selected multicast media stream (Page 1351 Column 1); and

5 caching the selected multicast media streams in at least one interactive server, such that interactive requests and/or errors in playing the media in the media client are handled by the interactive server or the media server (Figure 1, Page 1351, Sections 2.1-2.3 – see access node buffering of multicast streams for interactivity capabilities per user request). However, the prior art of SAM fails to explicitly disclose
10 generating plurality of multicast media streams, wherein each multicast media stream is repeated at regular stream intervals.

Almeroth teaches generating plurality of multicast media streams, wherein each multicast media stream is repeated at regular stream intervals (Pages 5-7, note Section 3 – Multicast delivery VOD – Basic Operation and Sections 4.1-4.2). It would
15 have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a plurality of multicast streams which are repeated at regular stream intervals with the interactive video-on-demand system of SAM. One of ordinary skill in the art would have done so for the purpose of servicing multiple clients requesting the same stream during a slot using a single multicast stream (Page 5).

20 b. As per claim 5, SAM discloses generating a dedicated unicast media stream from the media server or the interactive server and delivering to the media client

in response to a dedicated interactive request from the media client requesting a dedicated media (Page 1350 – Section 2, Sections 2.1-2.3).

c. As per claim 6, SAM discloses wherein the dedicated unicast media stream is generated from the interactive server if the interactive server contains the dedicated media (Sections 2.1-2.3 – see synch buffer interaction with streams and users).

d. As per claim 7, SAM discloses wherein the dedicated unicast media stream is generated from the media server if the interactive server does not contain the dedicated media (Page 1353 Paragraph 1). The Examiner notes that in the system of SAM if a request for an I stream cannot be fulfilled immediately, the synch buffer awaits a unicast delivery of stream data generated from a video server which is then delivered via unicast to the user.

e. As per claim 8, SAM discloses wherein the dedicated unicast media stream is generated from the interactive server after the dedicated media is delivered from the media server to the interactive server, if the interactive server does not contain the dedicated media (Page 1353 – Paragraph 1 – see access node I stream server request queuing for delivery of streams to a user and I stream playback at the user location).

f. As per claim 9, SAM discloses wherein the interactive request includes any one or more of pause, slow motion, fast forward, rewind, jump forward, and jump backward (Section 1, Sections 2.1-2.3).

g. As per claim 10, SAM discloses a system for delivering media selection to a plurality of media clients having a buffer for caching media of a selected media stream within one stream interval and processing capability for playing the media in a multicast media stream through a network, including

5 wherein the media client is joined to a selected multicast media stream in response to a selection request from the media client (Page 1349, Section 1, Page 1350 Column 1, Section 2)

 at least one interactive server for caching the selected multicast media stream such that interactive requests and/or errors in playing the media in the media
10 client are handled by the interactive server or the media server (Figure 1, Page 1351, Sections 2.1-2.3 – see access node buffering of multicast streams for interactivity capabilities per user request). However, the prior art of SAM fails to explicitly disclose generating plurality of multicast media streams, wherein each multicast media stream is repeated at regular stream intervals.

15 Almeroth teaches generating plurality of multicast media streams, wherein each multicast media stream is repeated at regular stream intervals (Pages 5-7, note Section 3 – Multicast delivery VOD – Basic Operation and Sections 4.1-4.2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a plurality of multicast streams which are repeated at
20 regular stream intervals with the interactive video-on-demand system of SAM. One of ordinary skill in the art would have done so for the purpose of servicing multiple clients requesting the same stream during a slot using a single multicast stream (Page 5).

h. As per claim 14, SAM discloses wherein a dedicated unicast media stream is generated from the media server or the interactive server and delivered to the media client in response to a dedicated interactive request from the media client requesting a dedicated media (Page 1350 – Section 2, Sections 2.1-2.3).

5 i. As per claim 15, SAM discloses wherein the dedicated unicast media stream is generated from the interactive server if the interactive server contains the dedicated media (Sections 2.1-2.3 – see synch buffer interaction with streams and users).

10 j. As per claim 16, SAM discloses wherein the dedicated unicast media stream is generated from the media server if the interactive server does not contain the dedicated media (Page 1353 Paragraph 1). The Examiner notes that in the system of SAM if a request for an I stream cannot be fulfilled immediately, the synch buffer awaits a unicast delivery of stream data generated from a video server which is then delivered via unicast to the user.

15 k. As per claim 17, SAM discloses wherein the dedicated unicast media stream is generated from the interactive server after the dedicated media is delivered from the media server to the interactive server, if the interactive server does not contain the dedicated media (Page 1353 – Paragraph 1 – see access node I stream server request queuing for delivery of streams to a user and I stream playback at the user
20 location).

I. As per claim 18, SAM discloses wherein the interactive request includes any one or more of pause, slow motion, fast forward, rewind, jump forward, and jump backward (Section 1, Sections 2.1-2.3).

5

Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over SAM and Almeroth in view of Mandal et al. (5,633,810), hereinafter referred to as Mandal.

a. As per claims 2 and 11, SAM and Almeroth teach the invention
10 substantially as claimed above. Additionally, SAM discloses wherein interactive requests in the media client are handled by the interactive server (Sections 2.1-2.3). However, SAM fails to explicitly disclose wherein errors in playing the media in the media client are handled by the interactive server.

Mandal teaches wherein errors in playing the media in the media client are
15 handled by an interactive server (Figure 1 element 120, Col 3 lines 50-67, Col 4 lines 15-34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of error correction by an interactive server with the multicast video-on-demand system of SAM. One of ordinary skill in the art would have been motivated to do so for the purpose of handling bit error correction and
20 packet cell loss (Col 3 lines 60-67).

Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over SAM and Almeroth in view of Monta et al. (7,039,048), hereinafter referred to as Monta.

a. As per claims 3 and 12, SAM and Almeroth teach the invention substantially as claimed above. Additionally, SAM discloses the use of local area
5 networks and the Internet for implementation, which are packet-based networks (Page 1350 – Paragraph 2). However, SAM fails to explicitly disclose that packets of multicast media streams are interleaved randomly.

Monta teaches wherein the media in each multicast media stream is sent in packets of data which are interleaved randomly (Col 27 lines 14-45, Col 28 lines 10
10 through Col 29 line 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of random interleaving of packets with the multicast video-on-demand system of SAM. One of ordinary skill in the art would have been motivated to do so for the purpose of interleaving multiplex customer data packets based on associated customer data in a request-based
15 environment (Col 28 lines 10 through Col 9 line 5).

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over SAM and Almeroth in view of Moskowitz et al. (5,629,732), hereinafter referred to as
20 Moskowitz.

a. As per claims 4 and 13, SAM and Almeroth teach the invention substantially as claimed above. However, SAM fails to explicitly disclose wherein the stream interval is 30 to 60 seconds.

5 Moskowitz teaches wherein the stream interval is 30 to 60 seconds (Fig. 11C-11D, Col 10 lines 31-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of a 30 to 60 second interval time with the multicast video-on-demand system of SAM. One of ordinary skill in the art would have been motivated to do so for the purpose of allowing a user to select and view a movie instantaneously rather than at a predetermined and scheduled start
10 time (Col 1 lines 21-30 and 53-56).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT FORD whose telephone number is (571)272-
15 8630. The examiner can normally be reached on 8-5:30 Mon-Thurs alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571)272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2141

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

- 5 For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10

gmf



ANDREW CALDWELL
SUPERVISORY PATENT EXAMINER

15